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**Chapter 2 Critical Thinking Questions-**

***As you read and outline chapter 2 answer the following questions on a separate piece of paper in your notebook. This will be used for a class discussion and study sheet in the future.***

1. What ecological lesson can we learn from the controlled experiment on the clearing of forest described in the **Core Case Study** that opened this chapter?
2. Think of an area you have seen where some significant change has occurred to a natural system. What is a question you might ask in order to start a scientific process to evaluate the effects of this change, similar to the process described in the **Core Case Study**?
3. Describe a way in which you have applied the scientific process described in the chapter (Figure 2-2) in your own life, and state the conclusion you drew from the process. Describe a new problem that you would like to solve using this process.
4. Respond to the following statements: **a.** Scientists have not absolutely proven that anyone has ever died from smoking cigarettes. **b.** The greenhouse theory—that certain gases (such as water vapor and carbon dioxide) warm the atmosphere—is not a reliable idea because it is just a scientific theory.
5. A tree grows and increases its mass. Explain why this phenomenon is not a violation of the law of conservation of matter.
6. If there is no “away,” why is the world not filled with waste matter?
7. Someone wants you to invest money in an automobile engine that will produce more energy than the energy in the fuel (such as gasoline or electricity) used to run the motor. What is your response? Explain.
8. Use the second law of thermodynamics to explain why a barrel of oil can be used only once as a fuel.

9.Imagine you have the power to revoke the law of conservation of matter for one day. What are the three most important things you would do with this power? **b.** Imagine you have the power to violate the first law of thermodynamics for one day. What are the three most important things you would do with this power?

10. List two questions that you would like to have answered as a result of reading this chapter.